

TASK FORCE ON CADMIUM IN CHILDREN'S JEWELRY  
Meeting Minutes  
Thursday, October 2, 2014  
2:00 PM in Room 2D of the LOB

- I. CONVENE MEETING
  - a. The meeting was called to order at 2:21 P.M.
- II. REMARKS BY THE CHAIRS
  - a. Rep. Urban opened by commenting on the schedule for future meetings and technical details for the presentations to be held today.
- III. PRESENTATION BY DR. ERIC ROSENBLUM, TOXICOLOGIST AND RISK ASSESSOR AT ROSENBLUM ENVIRONMENTAL
  - a. Due to technical failures, Dr. Rosenberg's presentation and question and answer period was not recorded.
- IV. PRESENTATION BY JUDITH HABER, SENIOR LABORATOR OPERATIONS MANAGER, ANALYTICAL CHEMISTRY AT UL VERIFICATION SERVICES INC.
  - a. Judith Haber provided a background of her experience as biologist and a chemist that has previously tested children's products and provided a brief educational background.
  - b. Tim Phalen asked where the testing facility she works at is located. Judith Haber stated their offices are located in Enfield, CT. Tim Phalen asked Judith Haber about the process or scenarios her offices go through for testing products. He provided an example of one scenario a company might go through. Judith Haber responded that his example is one scenario they face, as well as scenarios where the retailer asks them to blind-shop and test products on the shelf, but that there are a variety of scenarios where their services are requested by retailer or manufacturer for raw materials or final products. Tim Phalen asked if her offices offer to cross-check tests that have already been done by manufacturers. Judith Haber responded that they absolutely would if the request is made. Tim Phalen asked if it is also a part of their job to provide services to manufacturers that have a final product ready for retail, but need to be tested for certain standards prior to sale. Judith Haber responded that it is part of their job and, depending on the level of knowledge the manufacturer has, they will also ask their office's opinion of what tests need to be done before their product can be sold at the retail level. Tim Phalen asked if they share results that fail state or federal standards. Judith Haber responded their full report would detail whether a product passes or fails state or federal standards. Tim Phalen asked if their offices only test new products or older products. Judith Haber responded they do both. Tim Phalen followed up by asking how does the process work for their office to test older products. Judith Haber provided a background of how testing is done in their offices for older products. Tim Phalen asked what their offices look for in tests from clients in regards to inhalation or solubility. Judith Haber noted that the examples provided are a part of their testing and provided additional examples of what tests their offices would perform. Judith Haber then discussed how the offices would test each component part of a final product. Tim Phalen clarified that their offices do not set standards; they simply follow the standards dictated by a state or federal or international body and test products to ensure they meet those standards. Judith Haber stated that Tim Phalen's clarification is correct.
  - c. Rep. Urban asked if Judith Haber herself or her offices test cadmium and test children's products. Judith Haber responded that they do on a regular basis. Rep. Urban asked about standards used by the offices. Judith Haber said standards depend on the state/county it is being sold in and the tests they require be done to meet those standards.
  - d. Brent Cleaveland asked if Judith Haber could address the cost of doing these tests. Judith Haber responded it is quite costly depending on how it is performed. She noted total content standards can be done in two ways. The XRF testing is forty-five dollars per component, with most jewelry having a minimum of five components. She added that if the tests require wet chemistry, those costs would likely rise to one hundred dollars per component part. Judith continued to note that if a product has a surface coating like paint that it requires a leaching cost of two-hundred and fifty-eight dollars per surface coating. ASTM standards also call for leachable nickel content tests per metal component, which costs two-hundred and seventy dollars per component. Judith Haber

continued to say that not only is this costly to test just one final product, but that a client is likely to have multiple products they are sending it at one time for testing.

- e. Rep. Dan Carter asked Judith Haber if their offices are certified by the state consumer protection agency. Judith Haber responded that they are. Rep. Carter asked Judith Haber if clients can choose which lab they go to and whether the client has to do testing of their products on an annual basis. Judith Haber responded the choice is up to the client and that all tests required must be done on an annual basis. Rep. Carter asked if this applies to every state. Judith Haber responded that it is up to the states to settle their own standards.
- f. Anne Hulick asked Judith Haber if their offices recommend certain tests for products beyond the basic compliance tests. Judith Haber responded that she has previously sat on ASTM and CPSC committees to develop recommendations, but does not engage in these activities with specific clients. Anne Hulick asked if Judith Haber knew of the European Union's standards. Judith Haber responded that she did and elaborated on the types of tests and parts-per-million standard required by their laws and the specifics regarding surface coatings or plastics. Anne Hulick asked if this is specific to children's products or all products. Judith Haber responded that the standards fall under all products.
- g. Dr. Ginsberg asked Judith Haber if she is using the ASTM cadmium extraction test on a regular basis. Judith Haber responded that their offices do. Dr. Ginsberg asked if these are store samples or provided directly from the manufacturer and if it is done in duplicate. Judith Haber responded it is done in duplicate. Dr. Ginsberg asked if any historical results are available to present at this meeting or be provided to the task force. Judith Haber responded that she does, but with a caveat. She went on to explain how their testing begins with the total product and only go on to component parts if the total product passes the first test. Judith then stated that not passing the first test is very rare, but that variability is possible during subsequent tests. Dr. Ginsberg asked if their lab has gone beyond a 24-hour test to see any changes or differences. Judith Haber responded they do not in the case of cadmium. Dr. Ginsberg asked if it is done for lead. Judith Haber responded lead can be given a three-day test and CPSE at one point had specific lead testing for 24, 48, and 72-hour periods of time. Dr. Ginsberg asked if the pass/fail determination change if the testing period is a longer period of time. Judith Haber responded that it would because new criteria would be applied. Dr. Ginsberg asked if the results of certain results are public or primarily proprietary data. Judith Haber responded it is primarily proprietary. Dr. Ginsberg asked if she was familiar with Dr. Weidenhamer's work. Judith Haber responded that she is. Dr. Ginsberg asked if Judith Haber had seen similar levels of variability in the products she has tested without marring to what Dr. Weidenhamer found with marring. Judith Haber stated there were differences, but not of that magnitude, though European standards do have a wearability test into jewelry and specifically coated jewelry. Dr. Ginsberg asked Judith Haber if she feels that type of test should have been considered by ASTM. Judith Haber stated that in her opinion products with a coating it should have that test, but not for products without a coating.
- h. Tim Phalen asked for clarification from Judith Haber about certain testing methods and the level of stringency for testing in Connecticut compared to other states. Judith Haber responded that our standards are at this point in the middle of stringency levels, noting states can go as low as 40 or as high as 300 parts-per-million. She elaborated on the two migration tests and their differences in criteria, highlighting the migration is 13 micrograms per day through saliva and 200 micrograms per day in stomach acid.
- i. Rep. Carter asked Judith Haber whether the surface coating dissolves in the stomach acid when put through that test. Judith Haber stated she could not say whether all of the coating is removed during that test.
- j. Rep. Esposito asked about the removal of surface coating prior to testing certain products. Judith Haber responded that they do not remove the coating. Rep. Esposito asked about the three-day testing of lead and if there was variability. Judith Haber responded that in some cases there was variability in how long it took for full extraction to occur..
- k. Tim Phalen asked Judith Haber what happens if they test a product and it fails. Judith Haber responded that if a product fails, they send back the results and inform the client the product cannot be sold in the retail market or if it already is on the market than it needs to be recalled and it is up to the client to inform the proper state/federal agencies.
- l. Dr. Ginsberg asked Judith Haber asked about the XRF testing and wet chemistry tests and how they interact for total content. Judith Haber stated that for total content, both tests are generally

very close to one another. She added that if the XRF testing brings up inconclusive results or any hit, she goes back to the client and recommends wet chemistry be done on the product. Dr. Ginsberg asked about the 24-hour extraction test. Judith Haber provided a ballpark estimate of one-hundred and fifty dollars.

- m. Rep. Urban asked Dr. Ginsberg for clarification on the difference between XRF and wet chemistry testing. Dr. Ginsberg provided clarification to Rep Urban about the wet chemistry being a total content test, as well as the 24-hour acidic testing.

V. PRESENTATION BY PROFESSORS CHRISTIAN BRUCKNER, DEPARTMENT OF CHEMISTRY AT UCONN

- a. Dr. Bruckner provided an overview presentation on cadmium as an element, its history, its current use in industry, and the exposure of cadmium in society today to the task force. Rep. Urban asked Dr. Bruckner what alternatives are likely being used in states or countries where its content is significantly regulated. Mr. Bruckner responded to Rep. Urban that tin, copper, and zinc are the most common alternatives used.
- b. Rep. Carter asked for details on metal coordination. Mr. Bruckner responded that metal coordination is the interaction of metal with organic materials. Rep. Carter asked for clarification on how cadmium reacts to other metals. Mr. Bruckner responded that your aim to have a homogenous alloy. Rep. Carter asked if he were to take a random product for testing off a shelf that the cadmium would likely be disbursed. Mr. Bruckner explained that there are varying factors that affect how cadmium may be distributed in pieces of jewelry to affect the appearance of the product.
- c. Tim Phalen asked how acute cadmium poisoning would occur from children's jewelry and how often does it occur. Dr. Bruckner responded that he could not speak on how often it occurs, but provided a variety of scenarios and unintended uses that may not be tested.
- d. Dr. Ginsberg asked Dr. Bruckner if he knew about the source for cadmium that created in China that would be used for jewelry or toys. Dr. Bruckner responded that a majority the cadmium that is produced in China would be a byproduct. Dr. Bruckner added that other countries including the United States and Canada produce cadmium as well, but it is unlikely that it is sent to China to be used in children's jewelry.
- e. Rep. Vargas asked Dr. Bruckner for his opinion on whether he would prefer children's jewelry that had cadmium or did not have it. Dr. Bruckner responded that no cadmium is clearly a better option.
- f. Brent Cleaveland provided additional comments regarding the reduction in cadmium, the reduction in lead in toys, the alternative uses of zinc and tin, as well as the definition of acute cadmium poisoning. Dr. Bruckner responded by stating it is difficult to quantify because of the varying incidences and the size/volume of jewelry. However, any reduction close to zero cadmium is ideal, noting that zero is not attainable.
- g. Rep. Carter asked whether the makeup of other metals change the bioavailability when cadmium is introduced. Dr. Bruckner responded the variability would be large. Dr. Bruckner added that this is why standards don't specify the exact composition, but what is leachable under certain condition.

VI. OTHER BUSINESS

- a. Dr. Ginsberg inquired as to whether there would be advance information provided regarding the speakers for the next meeting. Rep. Urban responded that they would be provided.

VII. ADJOURNMENT

- a. The meeting was adjourned at 4:00 P.M.